## HEART-MIND

The Sanskrit and Pali term that is generally translated as "mind: *chitta,* also means "heart." In the *Anguttara Nikaya,* the Buddha says this of the heart-mind:

> I know of no other single process that, thus developed and made much of, is as pliable and workable as is this chitta.

He is suggesting that among the six modes of perception, the one capable of extraordinary enhancement is mental perception. Visual, auditory, olfactory, gustatory, and tactile perceptions can be enhanced to some extent through training; however, mental processes can be significantly developed, refined, and transformed. You will notice that the Dalai Lama wears glasses. I think it's safe to say that he's an exceptional meditator, but this has not eliminated his need for glasses. Another extraordinarily realized Mongolian lama named Senge Rinpoche, whom I met in Tibet in 199z, was quite hard of hearing. It was very embarrassing to have to shout at a lama, but it was the only way to communicate. His meditative prowess had not strengthened his hearing. The simple point is that meditative ability enhances the mind, but it doesn't necessarily enhance the other senses.

The Buddha continues:

> Monks, the chitta that is thus developed and made much of is pliable and workable. Monks, I know of no other single process so quick to change as is this chitta.

If you refine the mind, it becomes pliable and workable, and it can do extraordinary things. All phenomena are impermanent, but some are more quick to change than others. The mind's capability for rapid change is unsurpassed. Here is the famous statement:

> Monks, this chitta is brightly shining, but it is defiled by adventitious defilements. Monks, this chitta is brightly shining, and it is free from adventitious defilements.'

The mind's inherent nature is luminous, but it is obscured or veiled by temporary, adventitious defilements, such as craving, hostility, lethargy, and excitation. Mental afflictions arrive like visitors; they don't stay permanently, but linger awhile and then leave. When visited by afflictions, the mind's inherently luminous nature is obscured.

In the final two statements, the Buddha summarizes the essence of the path. The nature of the mind is luminous, but this is not always evident. It is obscured and covered by defilements—mental afflictions. Simply remove the obscuring, adventitious defilements, and the innate luminosity of awareness will be perfectly clear for all to see. This quote from the Buddha is recorded in the Pali Canon, and similar statements are attributed to him in the Mahayana discourses.

In the Theravadin tradition, this use of the term "chitta" refers to the bhavanga, which is naturally luminous. The bhavanga is the naturally pure and undefiled state of radiant mind from which the javana consciousness arises. There is debate between some Theravadin schools whether the javana consciousness literally emerges from the radiant bhavanga, but it makes good sense experientially to say that it does. Resting in the bhavanga, you observe mental events arising.

When the Buddha says that all things issue forth from this brightly shining mind, his words are consistent with ordinary English usage. Everything that occurs to you occurs in your mind; furthermore, you observe everything with your mind. We can use the word "mind" to denote both the domain in which mental events take place and the awareness that observes these events.

## *Shining Brightly*

Arriving at the substrate consciousness, the experience is luminous without being veiled by dullness, lethargy, or sleepiness: the mother lode of luminosity and cognizance. According to the Pali Canon, the bhavanga is the undefiled state of radiant mind, synonymous with the Buddha's "brightly shining mind." This naturally luminous mind is undefiled because all mental activities, including anger, boredom, active

compassion, and so forth, have gone dormant. It might seem like throwing out the baby with the bathwater. When everything goes dormant, this includes wholesome mental states such as loving-kindness, generosity, and compassion. But the dirty bathwater included craving, hostility, envy, and all the mental afflictions.

With all mental processes dormant, what remains is a naturally pure, undefiled state. The afflictions have gone quiet, though not irreversibly so. The sheer radiance of awareness of the substrate consciousness manifests because it is no longer veiled by mental activities. You rest in this state of consciousness while in dreamless sleep; your dreaming consciousness emerges out of it, and the contents of your dream emerge out of the substrate. Operating in dream mode, you mentally see, hear, think, and experience emotions, but the substrate is naturally pure and undefiled.

In the Theravadin tradition, the bhavanga is the mind's naturally pure state, but it is normally inaccessible and manifests primarily during deep sleep. We tap into this state multiple times daily; however, in falling asleep we generally lose clarity, and the ground state is veiled by dullness and sleepiness. The naturally luminous nature of the mind is hidden like a light in a box.

In stark contrast to this is access to the bhavanga via shamatha, which cultivates increasing luminosity and vividness of attention. With all mental processes dormant, there remains an exceptional degree of luminosity: the ground luminosity of the substrate consciousness. In the practice of shamatha, we make adjustments when the mind gets a bit dull or excited. We modulate, refine, and balance the attention to cultivate a vividness that becomes progressively clearer and sharper, in both temporal and qualitative aspects. Vividness reaches a crescendo upon attaining shamatha. Lo and behold, at the end of the tunnel, luminosity meets luminosity!

Ordinarily when we fall asleep, dullness overpowers our innate luminosity; this is why, on awakening, we can't remember what it was like to be deep asleep. To unlock the power of the natural purity of the bhavanga, the mind must be fully awakened by development. The ultimate task of shamatha is the full activation of the mind's radiant potential.

The bhavanga is known as the natural, unconfigured state of mind, the ground state or substrate consciousness from which the ordinary mind emerges as a configured state. When we operate out of waking consciousness, it is heavily configured for a specific gender, ethnicity, language, and personal history: the psyche studied by psychologists. When we fall asleep, it becomes unconfigured once again.

The bhavanga is also the final experience of a person's life. In the Pali texts, the state of consciousness of the ground of becoming is called the "falling away" mind. When you are dying, your gender-specific, species-specific psyche is dissolving and falling away; you are losing your mind. As the brain gradually shuts down, it is no longer able to support the generation of thoughts, memories, sensory perceptions, feelings, and so forth. Finally the EEG lines go flat, and a neuroscientist would declare that consciousness has ceased because the brain is no longer generating it; with neurons no longer functioning, there is no emergent feature of consciousness. Of course, if you are studying the mind by way of neurons, this conclusion is preordained by your methodology.

On the other hand, if you are investigating from the inside out, then you might actually die lucidly, analogous to falling asleep lucidly. If you can rest in the ongoing flow of awareness, you might observe the thinning out of mental processes and the falling away of the physical senses, thoughts, memories, emotions, and desires. Everything falls away and dissolves—but not into nothing. An extraordinarily daunting Buddhist principle that is analogous to the conservation of mass-energy in physics is that consciousness cannot be destroyed. Your psyche can withdraw into the bhavanga, and you will have lost your identity as male or female, old or young, fat or skinny; all your personal history will be dormant. If you die lucidly, observing your specific psyche dissolving and falling away, you will know what it's like to be dead. You can rest in the bhavanga and know you are there.

The dress rehearsal for death is learning how to fall asleep consciously, the opposite of the normal process for most of us. Watching yourself lose your mind as you fall asleep, you can observe the process of withdrawal of the physical senses, thoughts, memories, and images, while

you slip consciously into the bhavanga. Without training, at best you may retain some fraction of your waking clarity, but it is possible to witness this falling away and maintain lucidity in deep sleep. On the other hand, if you approach the substrate consciousness via hundreds or thousands of hours of shamatha training, you have enhanced the vividness and polished the clarity of your mind to a fine state. Accessing the substrate with this powerful instrument, you will encounter the source of all luminosity.

In Nagasena's famous dialogue with King Menander, he likens the bhavanga's radiance to the sun's luminosity. The naturally pure and radiant ground state when consciousness is turned upon itself instead of toward the senses also forms the basis for karmic processes in daily life. The luminosity characteristic of the ground of becoming is also that which illuminates all ordinary phenomena. When the mind is not activated in dreams, physical sensations, thinking, or problem solving, whether due to falling asleep or brain damage, then consciousness returns to this ground state.

Normal mental functioning is like a light that can be switched off. Perception via the eyes, ears, and other physical senses, as well as mental perception of thoughts, images, emotions, and so forth, is subject to interruption. If you are blinded or damage your auditory cortex, the corresponding appearances will no longer be illuminated. The ability to think and remember can be destroyed by dementia. Even the sense of physical pain can be disabled by disease, resulting in great risk of injury. On the other hand, the substrate consciousness of dreamless sleep has a radiance that is said to persist whether or not it is obscured. This important hypothesis could be tested empirically if any neuroscientist were so inclined. I can suggest several experiments that could be performed, but the first-person perspective would have to be taken seriously.

### *All Configurations*

The first verse of the *Dhammapada* contains one of the most frequently quoted aphorisms of the Buddha: "All phenomena are preceded by the mind, issue forth from the mind, and consist of the mind.' One interpretation of this statement is that the mind here refers to the bhavanga.

All phenomena means all appearances. This doesn't mean that all galaxies in the universe somehow emerged out of our minds. The Buddha is saying that all appearances in our world of experience are preceded by the mind. Awareness underlies everything else, and it exists even in deep sleep, when virtually nothing appears.

We commonly say that someone in dreamless sleep is unconscious, but this is nonsense for a person who is experiencing lucid, dreamless sleep. Buddhism holds that consciousness can never be eliminated, even under general anesthesia. It's just that people ordinarily have a very low level of luminosity and cognizance while they're asleep. Many of LaBerge's subjects have achieved lucidity in dreamless sleep, which demonstrates that one can be conscious in deep sleep. The Buddhist view is that, even in a comatose state, although consciousness is greatly diminished, it isn't completely absent. All phenomena are preceded by the mind, and the awareness of the bhavanga is like the pilot light on a stove. It's always lit, though unseen until activated—Poof! A dream appears and then it vanishes. If you shake a sleeping person: "Wake up, the house is on fire!" Poof ! The smoke, heat, flames, and crackle of the fire appear as you run for safety.

All phenomena are preceded by the mind's substrate, the bhavanga, from whence they issue forth. In the terminology of the early Pali Canon, no distinction is drawn between the substrate and the substrate consciousness—it's a system, which makes good sense. When the conceptual mind goes dormant and the substrate consciousness is experienced, there is no explicit bifurcation of experience between the substrate over there and the consciousness of it over here. Coming out of this experience, we may speak retrospectively about appearances of vacuity that we designate as the substrate. Awareness of it is not a separate thing being posited. One term, "bhavanga," describes the system. The bhavanga consciousness emphasizes the awareness that occurs.

Shifting our perspective, the objective side of this unified experience of the substrate consciousness is the substrate. All appearances, including the brightness of lights, the blueness of the sky, and the forms in your personal environment actually represent configurations of the space of your mind. This substrate, which is formless, shapeless, colorless, and

dimensionless, generates every aspect of form, shape, color, and dimension. It appears as visual, auditory, and tactile forms, such as those we see in a dream; it encompasses every possibility.

Can you imagine the smell of a ripe banana? If so, the space of your mind becomes configured as that smell. The sour taste of lemon juice on the tongue manifests in the substrate. All such appearances consist merely of configurations of the empty space of the mind. They arise from this space, consist of this space, and dissolve back into this space. This is what the Buddha meant in saying that all phenomena issue forth from the mind. Where else could they possibly come from? The notion that all phenomena emerge from neurons is absurd—even our perceptions of neurons emerge from the space of awareness.

Understanding that all phenomena consist of the mind places the horse before the cart. Phenomena are configurations or formations of the substrate perceived by consciousness, which is connate and interdependent. When the substrate is configured as a dreamscape, the substrate consciousness is configured as a dreaming consciousness. Out of this same substrate manifest all the appearances of the waking state, and the mind that apprehends them is called the psyche. Even though they are strongly configured by the visual cortex, auditory cortex, genetics, language, and culture, all such appearances consist solely of the mind. This is the Buddha's teaching in the *Dhammapada*.

In the *Ratnamegha Sutra* of the Mahayana canon, also attributed to the Buddha, is found a similar statement: "All phenomena are preceded by the mind." This is followed by the extraordinary statement: "When the mind is comprehended, all phenomena are comprehended." Since Buddhism starts with the world of experience, "all phenomena" refers to appearances to consciousness rather than to an independent, objective reality as perceived from a God's-eye view. Once we completely fathom the world of experience, we may see that there is nothing else. The Buddha's third assertion is truly astonishing: "By bringing the mind under control, all things are brought under control" How can we understand this? Bear in mind that the Buddha said he was awake, while we're not.

Imagine that you are in the midst of a lucid dream. All appearances in the dream are simply configurations of your substrate. The dream state is

like the waking state with no objective, physical constraints. If someone in your dream says, "All phenomena are preceded by the mind," being lucid, you respond, "Of course they are—I'm dreaming." When the mind is comprehended, all phenomena are comprehended. If you thoroughly fathom the nature of the substrate—from which all appearances emerge—this illuminates the nature of everything that appears.

In a lucid dream, you might experiment with transforming the contents of your dream by shifting, modifying, and reshaping them to reveal anything that is not malleable under the influence of your mind. Bringing your mind under control by truly fathoming the nature of the dream, you will find nothing impervious to your wishes. You can obliterate the whole dream or reshape it by changing anything you like, limited only by your imagination. You are completely free—the master of your lucid dream universe.

At this moment, you undoubtedly assume that you are actually awake, with no such ability to shift, modify, and master your universe. Relative to last night's sleep, you are awake, but relative to the Buddha's state, you might still be asleep. What would be the result of bringing your mind under control and thoroughly fathoming the nature of waking experience—as he did?

The idea that all phenomena are preceded by the mind, referring to the substrate, has an interesting parallel in twentieth-century physics. Quantum field theory includes very elegant theoretical systems and experimental methods to probe and characterize the nature of space. My undergraduate work in physics was focused on the energy that is implicit in the essence of space itself, called the "zero-point energy." When Paul Dirac (19o1-1984) mathematically integrated special relativity and quantum mechanics into quantum field theory, the concept of space was altered radically. In classical physics, space is inert—simply a location in which things can happen. In general relativity, space becomes far more interesting because it can be warped by massive objects. In quantum field theory, the very nature of empty space is characterized by the zero-point energy.

Besides containing ordinary matter, space can contain energy in thermal, gravitational, electromagnetic, and other forms. When all such

matter and energy is removed, what remains is the zero-point energy: the energy of empty space. The very nature of space can be thought of as an equilibrium, symmetry, or homogeneity—the same in every direction. But circumstances can break this symmetry, causing virtual particles to emerge spontaneously from "empty" space. A virtual electron or another elementary particle might be detected, but it will rapidly vanish with little effect.

Other more durable phenomena also emerge from empty space, and we call them particles and fields. According to quantum field theory, all particles of matter and fields of energy, virtual and real, are simply configurations of empty space. From galaxies to wristwatches to dark matter and energy, everything emerges from and consists exclusively of configured space. Everything eventually dissolves back into space. Whether phenomena are ephemeral or durable, quantum field theory describes their common ground as the nature of space."

Likewise, observe the space of the mind, and you will see a luminous vacuity, saturated with creative energy and ready for anything. While you are passively witnessing this space, a thought may pop up and then dissolve with no further effect. If you are able to rest without grasping, an arising thought is simply noticed, like a virtual particle with no durability. Whether it is neutral, virtuous, or nonvirtuous, the thought triggers no intention and influences no behavior. There is no chain of associated thoughts and no disturbance to your mental equilibrium. On the other hand, if you identify with thoughts and images—seeking them or rejecting them—the mind's grasping tentacles fixate upon these objects as real, and your intentions may trigger behavior. All the while, the objects of grasping exist only as configurations of the substrate, reified by grasping.

We have discussed three primary modes of shamatha. The first is mindfulness of the breath, which you can continue practicing throughout the day and night. As long as you are breathing, there is something to attend to. But there will come a time when you breathe out for the last time, respiration ceases, and the senses dissolve.

According to the Buddhist understanding, even after the breath stops, there will be lingering appearances and mental activities for some time.

You cannot practice mindfulness of the breath, but settling the mind in its natural state is quite possible. Watch the space of the mind and its contents with great interest as you die. Rest in the luminous space of awareness, attending to the mind as it falls away.

Eventually, the mind completely settles in its natural state; all appearances dissolve into the substrate, and all mental activities dissolve into the substrate consciousness. What remains is the appearance of the substrate and the awareness of the substrate consciousness, so no more settling is possible, but you can still practice awareness of awareness. Resting there, you can know what it's like to be dead. You might also see something more, but that's the practice of Dzogchen.